SEQUENCE LISTING

<110> Zhu, Zhenping

<120> Bispecific Immunoglobulin-Like Antigen Binding Proteins and Method
of Production

<130> 11245/47102

<140> filed concurrently herewith
<141> 2001-05-24
<150> US 60/206,749
<151> 2000-05-24

<160> 34
<170> WordPerfect 8.0 for Windows

<210> 1
<211> 10
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<213> Mouse

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Gly Phe Asn Ile Lys Asp Phe Tyr Met His
 1   5   10

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Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe Gln
 1   5   10   15

Gly
 17

<210> 3
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<212> PRT
<213> Mouse

<400> 3

Tyr Tyr Gly Asp Tyr Glu Gly Tyr
 1   5

<210> 4
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<400> 4

Ser Ala Ser Ser Ser Val Ser Tyr Met His
 1   5   10

<210> 5

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<400> 5

Ser Thr Ser Asn Leu Ala Ser
  1               5


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<213> Mouse

<400> 6

Gln Gln Arg Ser Ser Tyr Pro Phe Thr
  1               5


<210> 7
<211> 117
<212> PRT
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<400> 7

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
  1               5                  10                  15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
                20                  25                  30

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
            35                  40                  45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe
        50                  55                  60

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Asn Thr Ala Tyr
 65                  70                  75                  80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser
        115


<210> 8
<211> 108
<212> PRT
<213> Mouse

<400> 8

Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
  1               5                  10                  15

Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
                20                  25                  30
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His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
        35                  40                  45

Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
        50                  55                  60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
65                  70                  75                  80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
                85                  90                  95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
            100                 105
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<210> 9
<211> 30
<212> DNA
<213> Mouse

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ggcttcaaca ttaaagactt ctatatgcac                                    30


<210> 10
<211> 51
<212> DNA
<213> Mouse

<400> 10

tggattgatc ctgagaatgg tgattctggt tatgccccga agttccaggg c            51


<210> 11
<211> 24
<212> DNA
<213> Mouse

<400> 11

tactatggtg actacgaagg ctac                                          24


<210> 12
<211> 30
<212> DNA
<213> Mouse

<400> 12

agtgccagct caagtgtaag ttacatgcac                                    30


<210> 13
<211> 21
<212> DNA
<213> Mouse

<400> 13

agcacatcca acctggcttc t                                             21
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<210> 14
<211> 27
<212> DNA
<213> Mouse

<400> 14

cagcaaagga gtagttaccc attcacg   27

<210> 15
<211> 351
<212> DNA
<213> Mouse

<400> 15

caggtcaagc tgcagcagtc tggggcagag cttgtggggt caggggcctc agtcaaattg   60
tcctgcacaa cttctggctt caacattaaa gacttctata tgcactgggt gaagcagagg   120
cctgaacagg gcctggagtg gattggatgg attgatcctg agaatggtga ttctggttat   180
gccccgaagt tccagggcaa ggccaccatg actgcagact catcctccaa cacagcctac   240
ctgcagctca gcagcctgac atctgaggac actgccgtct attactgtaa tgcatactat   300
ggtgactacg aaggctactg gggccaaggg accacggtca ccgtctcctc a   351

<210> 16
<211> 324
<212> DNA
<213> Mouse

<400> 16

gacatcgagc tcactcagtc tccagcaatc atgtctgcat ctccagggga gaaggtcacc   60
ataacctgca gtgccagctc aagtgtaagt tacatgcact ggttccagca gaagccaggc   120
acttctccca aactctggat ttatagcaca tccaacctgg cttctggagt ccctgctcgc   180
ttcagtggca gtggatctgg gacctcttac tctctcacaa tcagccgaat ggaggctgaa   240
gatgctgcca cttattactg ccagcaaagg agtagttacc cattcacgtt cggctcgggg   300
accaagctgg aaataaaacg ggcg   324

<210> 17
<211> 15
<212> PRT
<213> Mouse

<400> 17

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
  1   5   10   15

<210> 18
<211> 45
<212> DNA
<213> Mouse

<400> 18

ggtggaggcg gttcaggcgg aggtggctct ggcggtggcg gatcg   45

<210> 19
<211> 10
<212> PRT

<213> Mouse

<400> 19

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 1   5   10

<210> 20
<211> 15
<212> DNA
<213> Mouse

<400> 20

ggtggaggcg gttca   15

<210> 21
<211> 17
<212> PRT
<213> Mouse

<400> 21

Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe Gln
 1   5   10   15

Gly
 17

<210> 22
<211> 117
<212> PRT
<213> Mouse

<400> 22

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
 1   5   10   15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
            20   25   30

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
        35   40   45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
    50   55   60

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
 65   70   75   80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
            100   105   110

Val Thr Val Ser Ser
        115

<210> 23

<211> 106
<212> PRT
<213> Mouse

<400> 23

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Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
 1               5                  10                  15

Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
            20                  25                  30

His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
            35                  40                  45

Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
    50                  55                  60

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
65                  70                  75                  80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
                85                  90                  95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
            100                 105
```

<210> 24
<211> 51
<212> DNA
<213> Mouse

<400> 24

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tggattgatc ctgagaatgg tgattctgat tatgccccga agttccaggg c          51
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<210> 25
<211> 351
<212> DNA
<213> Mouse

<400> 25

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caggtcaagc tgcagcagtc tggggcagag cttgtggggt caggggcctc agtcaaattg     60
tcctgcacaa cttctggctt caacattaaa gacttctata tgcactgggt gaagcagagg    120
cctgaacagg gcctggagtg gattggatgg attgatcctg agaatggtga ttctgattat    180
gccccgaagt tccagggcaa ggccaccatg actgcagact catcctccaa cacagcctac    240
ctgcagctca gcagcctgac atctgaggac actgccgtct attactgtaa tgcatactat    300
ggtgactacg aaggctactg gggccaaggg accacggtca ccgtctcctc a             351
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<212> DNA
<213> Mouse

<400> 26

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gacatcgagc tcactcagtc tccagcaatc atgtctgcat ctccagggga gaaggtcacc     60
ataacctgca gtgccagctc aagtgtaagt tacatgcact ggttccagca gaagccaggc    120
acttctccca aactctggat ttatagcaca tccaacctgg cttctggagt ccctgctcgc    180
ttcagtggca gtggatctgg gacctcttac tctctcacaa tcagccgaat ggaggctgaa    240
gatgctgcca cttattactg ccagcaaagg agtagttacc cattcacgtt cggctcgggg    300
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<211> 240
<212> PRT
<213> Mouse

<400> 27

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
1   5   10   15

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
            20   25   30

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
        35   40   45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe
    50   55   60

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65   70   75   80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
                100   105   110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
            115   120   125

Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
        130   135   140

Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
145   150   155   160

Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
                165   170   175

Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
            180   185   190

Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
        195   200   205

Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser
    210   215   220

Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
225   230   235   240

<210> 28
<211> 238
<212> PRT
<213> Mouse

<400> 28

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
1   5   10   15

```
Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
         20                  25                  30

Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
         35                  40                  45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
     50                  55                  60

Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
 65                  70                  75                  80

Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
             85                  90                  95

Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
         100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
         115                 120                 125

Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
     130                 135                 140

Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
145                 150                 155                 160

Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
             165                 170                 175

Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
         180                 185                 190

Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
         195                 200                 205

Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser
     210                 215                 220

Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
225                 230                 235
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<210> 29
<211> 43
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 29

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<210> 30
<211> 30
<212> DNA
<213> Artificial Sequence

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<223> Synthetic primer

<400> 30

tcgaaggatc actcaccttt tatttccagc   30

<210> 31
<211> 52
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 31

ggtcaaaagc ttatgggggat ggtcatgtat catccttttt ctagtagcaa ct   52

<210> 32
<211> 36
<212> DNA
<213> Artificial Sequence

<220>

<223> Signal

<400> 32

tcgatctaga aggatccact cacgttttat ttccag   36

<210> 33
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<212> PRT
<213> Artificial Sequence

<220>

<223> leader peptide

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Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
                      5   10   15

Val His Ser
         19

<210> 34
<211> 32
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic primer

<400> 34

tctcggccgg cttaagctgc gcatgtgtga gt   32